

IN THE CLAIMS:

1 1. – 5. (Cancelled)

1 6. (Currently Amended) A method of claiming ownership of a disk by a network device
2 in a network storage system comprising the steps of:
3 writing ownership information to a predetermined area of the disk; and
4 setting a small computer system interface ~~persistent~~-reservation tag for the disk to
5 a state of network device ownership to provide a two part indicia of ownership for the
6 disk, where the two part indicia of ownership are both written to the disk.

1 7. (Original) The method of claim 6 wherein the ownership information further com-
2 prises a serial number of a network device.

1 8. (Original) The method of claim 6, wherein the network device comprises a file server.

1 9. (Currently Amended) A network storage system comprising:
2 a plurality of network devices;
3 one or more switches, each network device connected to at least one of the one or
4 more switch; and
5 a plurality of disks having a first ownership attribute written to a predetermined
6 area of ~~the each~~ disk and a second ownership attribute in the form of a small computer
7 system interface ~~persistent~~-reservation tag, wherein the first and second ownership attrib-
8 ute are written to each disk, each disk connected to at least one of the plurality of
9 switches.

1 10. (Cancelled)

1 11. (Currently Amended) The network storage system of claim 9, wherein the small
2 computer system interface ~~persistent~~ reservation tag is a small computer system interface
3 level 3 persistent reservation tag.

1 12. (Currently Amended) The networked storage system of claim 9, wherein the small
2 computer system interface ~~3-persistent~~ reservation tag is set such that only the network
3 device may write to the disk.

1 13. (Previously Presented) The network storage system of claim 9, wherein the first
2 ownership attribute further comprises a serial number of the network device that owns
3 that particular disk.

1 14. (Previously Presented) The network storage system of claim 9, wherein each of the
2 plurality of file servers can read data from each of the plurality of disks.

1 15. (Previously Presented) The network storage system of claim 9, wherein only a net-
2 work device that owns one of the plurality of disks can write data to the one disk.

3 16. (Original) The network storage system of claim 9, wherein the network devices com-
4 prise file servers.

1 17. (Currently Amended) A network storage system comprising:
2 one or more switches;
3 a plurality of disks; and
4 means for writing ownership information to a predetermined area of a-each disk
5 of the plurality of disks; and

6 means for setting a small computer system interface ~~level 3 persistent reservation~~
7 tag of ~~a each~~ disk to provide a two part indicia of ownership, where the two part indicia
8 of ownership are written to each disk.

1 18. (Cancelled)

1 19. (Original) The network storage system of claim 17, wherein the network devices
2 comprise file servers.

1 20. (Currently Amended) A network storage system comprising:

2 one or more switches interconnected to form a switching fabric;
3 a plurality of disks, each of the disks connected to at least one of the switches,
4 each disk storing a first ownership attribute to a predetermined area of a disk and
5 each disk associated with a second ownership attribute in the form of a small
6 computer system interface ~~persistent reservation~~; and
7 one or more network devices, interconnected with the switching fabric, each of
8 the network devices being adapted to own a predetermined set of disks of the plurality of
9 disks through use of the first and second ownership attributes.

1 21. (Cancelled)

1 22. (Cancelled)

1 23. (Previously Presented) The network storage system of claim 20, wherein the first
2 ownership attribute further comprises a serial number of one of the one or more network
3 devices.

1 24. (Currently Amended) The network storage system of claim 20, wherein the small
2 computer system interface ~~persistent~~ reservation is a small computer system interface
3 level 3 persistent reservation.

1 25. (Original) The network storage system of claim 20, wherein each of the network de-
2 vices further comprises a disk ownership table, the disk ownership table containing own-
3 ership data for each of the disks.

1 26. (Original) The network storage system of claim 25, wherein the ownership table fur-
2 ther comprises a world wide name for each of the disks, the world wide name being used
3 for identification of each of the disks.

1 27. (Currently Amended) A computer-readable medium, including program instructions
2 executing on network device, for performing the steps of:

3 writing ownership information to a predetermined area of a disk; and
4 setting a small computer system interface ~~persistent~~ reservation tag for the disk to
5 a state of network device ownership to provide a two part indicia of ownership for the
6 disk, where the two part indicia of ownership are both written to the disk.

1 28. (Currently Amended) A method for a network device to manage ownership of one
2 or more storage devices in a network storage system, comprising the steps of:

3 reading ownership information from a predetermined area of each storage device;
4 in response to reading the ownership information, creating an ownership table that
5 identifies the one or more storage devices owned by the network device;
6 reading a small computer system interface (SCSI) ~~level 3 persistent~~ reservation
7 tag from each storage device;

8 comparing the SCSI ~~level-3 persistent~~ reservation tag to the ownership informa-
9 tion of the same storage device and, if there is not a match, changing the SCSI ~~level-3~~
10 ~~persistent~~ reservation tag to match the ownership information; and
11 configuring the one or more storage devices identified in the ownership table into
12 at least one volume for use by the network device.

1 29. (Previously Presented) The method of claim 28 further comprising:
2 setting ownership information at the predetermined area of each storage device.

1 30. (Previously Presented) The method of claim 28 wherein the step of configuring fur-
2 ther comprises:
3 organizing the one or more storage devices into at least one Redundant Array of
4 Independent Disks (RAID) group.

1 31. (Previously Presented) The method of claim 28 further comprising:
2 wherein the predetermined area of the one or more storage devices is sector zero
3 of the one or more storage devices.

1 32. (Previously Presented) The method of claim 28 further comprising:
2 wherein the ownership information is a serial number of the network device that
3 owns that particular storage device.

1 33. (Previously Presented) The method of claim 28 further comprising:
2 wherein the ownership table includes a world wide name for each of the storage
3 devices, the world wide name being used to identify each of the storage devices.

1 34. (Currently Amended) A network device for managing ownership of one or more
2 storage devices in a network storage system, comprising the steps of:

3 means for reading ownership information from a predetermined area of each stor-
4 age device;
5 in response to reading the ownership information, means for creating an owner-
6 ship table that identifies the one or more storage devices owned by the network device;
7 means for reading a small computer system interface (SCSI) ~~level 3 persistent res-~~
8 ervation tag from each storage device;
9 means for comparing the SCSI ~~level 3 persistent~~ reservation tag to the ownership
10 information of the same storage device and, if there is not a match, changing the SCSI
11 ~~level 3 persistent~~ reservation tag to match the ownership information; and
12 means for configuring the one or more storage devices identified in the ownership
13 table into at least one volume for use by the network device.

1 35. (Currently Amended) A computer readable medium containing executable program
2 instructions for managing ownership of one or more storage devices in a network storage
3 system, the executable program instructions comprising program instructions for:

4 reading ownership information from a predetermined area of each storage device;
5 in response to reading the ownership information, creating an ownership table that
6 identifies the one or more storage devices owned by the network device;
7 reading a small computer system interface (SCSI) ~~level 3 persistent~~ reservation
8 tag from each storage device;
9 comparing the SCSI ~~level 3 persistent~~ reservation tag to the ownership informa-
10 tion of the same storage device and, if there is not a match, changing the SCSI ~~level 3~~
11 ~~persistent~~ reservation tag to match the ownership information; and
12 configuring the one or more storage devices identified in the ownership table into
13 at least one volume for use by the network device.

1 36. (Currently Amended) A network storage system, comprising:

2 one or more storage devices, each storage device having a predetermined area for
3 storing ownership information and each storage device having a small computer system
4 interface (SCSI) ~~level 3 persistent~~ reservation tag;
5 at least one network device having an ownership table constructed based upon
6 the ownership information from each storage device;
7 the at least one network device having an ownership layer for comparing the SCSI
8 ~~level 3 persistent~~ reservation tag to the ownership information of the same storage device
9 and, if there is not a match, changing the SCSI ~~level 3 persistent~~ reservation tag to match
10 the ownership information; and
11 the at least one network device having a disk storage layer for configuring the one
12 or more storage devices identified in the ownership table into at least one volume for use
13 by the network device.

1 37. (Previously Presented) The network storage system of claim 36 further comprising:
2 the ownership layer adapted to set ownership information at the predetermined
3 area of each storage device.

1 38. (Previously Presented) The network storage system of claim 36 further comprising:
2 the disk storage layer organizing the one or more storage devices into at least one
3 Redundant Array of Independent Disks (RAID) group.

1 39. (Previously Presented) The network storage system of claim 36 further comprising:
2 wherein the predetermined area of the one or more storage devices is sector zero
3 of the one or more storage devices.

1 40. (Previously Presented) The network storage system of claim 36 further comprising:
2 wherein the ownership information is a serial number of the network device that
3 owns that particular storage device.

1 41. (Previously Presented) The network storage system of claim 36 further comprising:
2 wherein the ownership table includes a world wide name for each of the storage
3 devices, the world wide name being used to identify each of the storage devices.

1 42. (Currently Amended) The method of claim 6 wherein the small computer system in-
2 | terface ~~persistent~~-reservation tag and the ownership information at the predetermined area
3 of the disk indicate ownership by the same network device.

1 43. (Currently Amended) The method of claim 6 wherein the small computer system
2 | interface ~~persistent~~-reservation tag is a small computer system interface level 3 persistent
3 reservation tag.

1 44. (Currently Amended) A method for a network device to manage ownership of one
2 or more storage devices in a network storage system, comprising the steps of:
1 reading ownership information from a predetermined area of each storage device;
2 | accessing a small computer system interface (SCSI) ~~persistent~~-reservation tag as-
3 sociate with each storage device;
4 | comparing the SCSI ~~persistent~~-reservation tag to the ownership information of the
5 same storage device and, if there is not a match, changing the SCSI ~~persistent~~-reservation
6 tag to match the ownership information; and
7 configuring the one or more storage devices for use by the network device.

1 45. (Currently Amended) The method of claim 44 wherein the small computer system
2 | interface (SCSI) ~~persistent~~-reservation tag is a small computer system interface level 3
3 (SCSI-3) persistent reservation tag.

1 46. (Previously Presented) The method of claim 44 further comprising:

1 in response to reading the ownership information, creating an ownership table on
2 the network device that identifies the one or more storage devices owned by the network
3 device; and

4 using the ownership table to configure the one or more storage devices into at
5 least one volume.

1 47. (Previously Presented) The method of claim 44 further comprising:

2 setting ownership information at the predetermined area of each storage device.

1 48. (Previously Presented) The method of claim 44 further comprising:

2 wherein the predetermined area of the one or more storage devices is sector zero
3 of the one or more storage devices.

1 49. (Currently Amended) A network storage system, comprising:

2 means for reading ownership information from a predetermined area of each stor-
3 age device;

4 means for accessing a small computer system interface (SCSI) ~~persistent-reserva-~~
5 tion tag associate with each storage device;

6 means for comparing the SCSI ~~persistent-reservation~~ tag to the ownership infor-
7 mation of the same storage device and, if there is not a match, changing the SCSI ~~persis-~~
8 tent-reservation tag to match the ownership information; and

9 means for configuring the one or more storage devices for use by the network de-
10 vice.

1 50. (Currently Amended) A computer readable medium containing executable program
2 instructions for manage ownership of one or more storage devices, the executable pro-
3 gram instructions comprising program instructions for:

4 reading ownership information from a predetermined area of each storage device;

5 | accessing a small computer system interface (SCSI) ~~persistent~~ reservation tag as-
6 | sociate with each storage device;
7 | comparing the SCSI ~~persistent~~ reservation tag to the ownership information of the
8 | same storage device and, if there is not a match, changing the SCSI ~~persistent~~ reservation
9 | tag to match the ownership information; and
10 | configuring the one or more storage devices for use by the network device.

1 | 51. (Currently Amended) A network storage system comprising:
2 | a plurality of disks having a first ownership attribute written to a known and con-
3 | stant location across all the disks and a second ownership attribute in the form of a small
4 | computer system interface (SCSI) ~~persistent~~ reservation tag to provide a two part indicia
5 | of ownership; and
6 | a network device with an ownership layer for comparing the SCSI persistent res-
7 | ervation tag to the ownership information stored in the known and constant location of
8 | the same storage device and, if there is not a match, changing the SCSI persistent reserva-
9 | tion tag to match the ownership information stored in the known and constant location.

1 | 52. (Currently Amended) A method for a network device to manage ownership of one or
2 | more storage devices in a network storage system, comprising the steps of:
3 | reading ownership information of each storage device from a known and constant
4 | location across all storage devices;
5 | accessing a small computer system interface (SCSI) ~~persistent~~ reservation tag as-
6 | sociate with each storage device; and
7 | comparing the SCSI ~~persistent~~ reservation tag to the ownership information of the
8 | same storage device and, if there is not a match, changing the SCSI persistent reservation
9 | tag to match the ownership information stored on the storage device in the known and
10 | constant location.

Please add new claim 53

- 1 53. (New) A method, comprising:
- 2 writing ownership information to a predetermined area of the disk to claim write
- 3 ownership by a first server;
- 4 setting a small computer system interface (SCSI) reservation tag to a state of the
- 5 first server ownership to provide a two part indicia of ownership for the first server; and
- 6 determining, by a second server, the disk is owned by the first server by reading
- 7 the ownership information in the predetermined area of the disk.